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Huai-Rong Shao

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12/13/2006

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EXAMINER

LEE, PHILIP C

ART UNIT

PAPER NUMBER

2152

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/862,410	<b>Applicant(s)</b> SHAO ET AL.	
	<b>Examiner</b> Philip C. Lee	<b>Art Unit</b> 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication:
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 September 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 and 19-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 19-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. This action is responsive to the amendment and remarks filed on September 26, 2006.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/26/2006 has been entered.
3. Claims 1-13 and 19-35 are presented for examination and claims 14-18 are canceled.
4. The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

*Claim Rejections - 35 USC 101*

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 12 and 13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. "Computer-readable media" can be considered as a transmission signal, which is propagated energy. It is not one of the categories of statutory subject matter.

7. Claims 19-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. "An apparatus comprising: packetizer logic, collaborator logic, priority mapping logic, and forwarder logic" does not include any functional structure of an apparatus. An apparatus comprising a plurality of logics (software) is considered as program per se, which is not one of the categories of statutory subject matter.

*Claim Rejections - 35 USC 102*

8. Claims 1-13 and 19-35 are rejected under 35 U.S.C. 102(e)/103(a) as being anticipated by /unpatentable over Aharoni et al. (US 6,014,694), hereafter "Aharoni"

9. Aharoni was cited in the previous office action.

10. As to claim 1, Aharoni discloses the invention as claimed including a method comprising; compressing video objects (col. 2, lines 15-16; 14, 16, Fig. 1; and 212, Fig. 15); generating at least one corresponding elementary stream comprising the compressed video objects (col. 2, lines 29-35; Fig. 4; and 214, Fig. 15); classifying information within each elementary stream based on importance (col. 2, lines 29-31; and col. 9, lines 57-62) and responsive to a particular video object that is selected at least one user interaction (col. 7, line 62-col. 8, line 17) via a remote device that is operatively coupled across a network (col. 19, lines 14-21; 220, fig. 15);and assembling the classified information into

packets associated with different classes of network packets (col. 2, lines 56-62; and col. 7, line 67 to col. 8, line 1).

11. Aharoni's disclosure talks about raw video and data objects in several places. However, Aharoni discloses that any suitable method of video compression can be utilized to process the raw video data such as described in connection with MPEG-I, MPEGQ, or MPEG-4 standards (col. 6, lines 56-59; and col. 18, lines 39-42). It is well known in the art that MPEG-4 standards are object-based (e.g. "MPEG4 Video Verification Model" reference is cited by the applicant in the parent application 09/464,671). This basically means that Aharoni's raw data are video objects and Aharoni's data objects are video objects.

12. As to claim 6, the claim is rejected for the same reasons as claim 1 above. In addition, Aharoni discloses a method comprising: packetizing content information including video objects (col. 2, lines 15-16, 29-35; col. 7, lines 60-62); generating resource coordination information based at least in part on at least one prioritizing parameter associated with an application communicating the content information (col. 8, lines 2-23) and on one or more prioritizing parameters associated with a particular video object that is selected by a user interaction (col. 7, line 62-col. 8, line 17; col. 19, lines 14-21) via a remote device that is operatively coupled to a network (220, fig. 15); selectively associating each packet of content information with a service class selected from among at least two different service classes based on the resource coordination information (col. 8, lines 2-23; and col. 9, lines 57-62); selectively outputting at least one packet of content information based on a priority associated with the service class

associated with the packet of content information (col. 8, lines 2-23 and col. 9, lines 57-62); and providing the at least one packet of content information to a network (col. 8, lines 6-7).

13. As to claim 12, the claim is rejected for the same reasons as claim 6 above. In addition, one or more computer-readable media comprising computer instructions for performing acts comprising: generating prioritization information based at least in part on at least one parameter associated with an application streaming media information and on one or more prioritizing parameters associated with a particular video object that is selected from the media information by a user interaction (col. 7, line 62-col. 8, line 17; col. 19, lines 14-21) via a remote device that is operatively coupled to a network (220, fig. 15); associating packets of the media information with a service class selected from a plurality of different service classes based on the prioritization information; and selectively outputting from sending computing device onto the network some of the packets of media information based on their respective service classes, is inherent in Aharoni's disclosure. Moreover, Aharoni discloses selectively discarding a portion of the packets of the media information in accordance with an adaptive rate control mechanism at a sending computing device (col. 3, lines 46-60; and col. 12, lines 42-55).

14. As to claim 19, the claim is rejected for the same reasons as claims 1 and 6 above. In addition, Aharoni discloses an apparatus comprising; packetizer logic configured to receive encoded content information and output corresponding packets of content information, the content information including video objects (col. 2, lines 15-16, 29-35; col. 7, line 67 to col. 8, line 17; and Fig. 2); collaborator logic operatively coupled to the packetizer logic and configured

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to receive at least one prioritizing parameter associated with at least one application, including an application communicating the content information (18, Fig. 2 ) and one or more prioritizing parameters associated with a particular video object that is selected by a user interaction (col. 7, line 62 to col. 8, line 17; and col. 19, lines 15-21) via a remote device that is operatively coupled to a network (220, fig. 15) and output resource coordination information associated based at least in part on the at least one prioritizing parameter associated with the particular video object (col. 8, lines 2-23., and Fig. 2); priority mapping logic operatively coupled to the collaborator logic and configured to receive the packetized content information and the resource coordination information, and selectively associate each received packet of content information with a service class selected from among at Least two different service classes based on the resource coordination information, and selectively output at least one packet of content information based on a priority associated with each service class (col. 8, lines 2-23; Fig. 2., and col. 9, lines 57-62); and forwarder logic operatively coupled to the priority mapping logic and configurable to provide the at least one packet of content information to the network (col. 8, lines 6-7; and Fig. 2).

15. As to claim 25, the claim is rejected for the same reasons as claims 1, 6, and 19 above. In addition, Aharoni discloses a system comprising: a network environment (Fig. 15) including a backbone network (218, Fig. 15), and a first access network (216, Fig. 15) and a second access network (220, Fig. 15; and col. 18, lines 15-16) each being operatively coupled to the backbone network; a plurality of host devices including a first host device operatively coupled to the first access network (218, Fig. 15) and a second host device operatively coupled to the second access



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network, the second host device receiving a user interaction comprising selection of a particular video object (col. 7, line 62-col. 8, line 17; col. 19, lines 14-21); an application-aware resource controllers (222, Fig. 15).

16. Aharoni discloses one application-aware resource controller (222, Fig. 15) which function to determine and control the bandwidth for a particular network connection (col. 21, lines 34-36). It would have been obvious to one skilled in the art at the time of the invention to utilize a plurality of these application-aware resource controller in the system in order to cover more than network connections.

17. As to claim 2, Aharoni does not explicitly spell out the video data as shape, motion, and texture information. However, Aharoni discloses assigning different priority levels for multiple types of frames comprised of video data which may include shape, motion, and texture information (col. 9, lines 57-62).

18. As to claim 3, Aharoni does not explicitly disclose selectively multiplexing a plurality of the network packets with the same priority level into an application level packet. However, it would have been obvious to one skilled in the art at the time of the invention that a client would receive a subset of the levels chosen to have suitable data content to match that of the network connection or the client by multiplexing a prioritized video data stream comprising multiple levels (col. 2, lines 28-35).



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19. As to claim 4, Aharoni does not explicitly disclose arranging the content of at least one of the network packets in an interleaving fashion. However, it is well known in the art, and would have been obvious to one skilled in the art at the time of the invention that arranging the contents of the packet in an interleaving fashion would speed up the packet assembly and would as a result enhance the fast transcoding process.

20. As to claim 5, Aharoni discloses the different classes of network packets are associated with the network, which provides differentiated services (Diff- Serv) such that an adaptive transmission environment is implemented for multimedia communications using scalable coding technology (col. 2, lines 10-12,44-46; and col. 7, lines 35-42).

21. As per claims 7, 20, and 33-35, Aharoni discloses calculating optimum compression level of a particular video object selected from user interaction by return acknowledgments and statistics (col. 19, lines 14-21). It would have been obvious to one skilled in the art at the time of the invention to include mouse clicking, mouse moving, object zoom-in, object zoom-out, add or delete, or any user interaction that affect the rate of receiving returned acknowledgments and statistics in order to calculate the optimum compression level. User interaction such as fast-forwarding on a streaming video, or mouse clicking to start another streaming video session will consume part of the available bandwidth in a connection. This will cause the rate of the returning packets (acknowledgment or statistics) to change.

22. As to claim 8, Aharoni discloses generating the resource coordination information based

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at least in part on at least one prioritizing parameter associated with a monitored performance of the network (col. 8, lines 2-23).

23. As to claims 9, 10, 22, and 23, Aharoni discloses encoding initial content information as the encoded content information, and segmenting raw video data into a plurality of video objects and wherein at least one of the video objects is included in the initial content information (col. 2, lines 56-59; and col. 7, lines 49-51).

24. As to claims 11, 13, 24, and 31, Aharoni discloses the content information includes data representing media information selected from a group comprising video information, audio information, image information, and textual information (col. 1, lines 12-17., and col. 2, lines 15-16).

25. As to claim 21, Aharoni discloses network monitoring logic operatively coupled to the collaborator logic and configurable for use with the network and in monitoring network performance, and to output at least one prioritizing parameter associated with the network performance (col. 2, lines 56-63; and col. 13, lines 11-13), and the collaborator logic is further configured to receive the at least one prioritizing parameter associated with the network performance, and output the resource coordination information based at least in part on the at least one prioritizing parameter associated with the network performance (col. 8, lines 2-23; and Fig. 2).

26. As to claim 26, Aharoni discloses at least the first application-aware resource controller is configured to selectively adapt a flow rate associated with the content information based on an identified state of at least one of the first access network, the second access network, or the backbone network (222, Fig. 15).

27. As to claim 27, Aharoni discloses at least the first application-aware resource controller is configured to selectively adapt a flow rate to associated with the content information based on at least one identified requirement of the second host device (col. 7, lines 7-15; and col. 8, lines 8-17).

28. As to claim 28, Aharoni discloses at least the first application-aware resource controller is configured to controllably handle the content information per application-based signaling, and to operatively associate a priority with the at least one service class (col. 8, lines 8-23; and col. 9, lines 57-62).

29. As to claim 29, Aharoni discloses associating a respective priority with each respective service class of the at least two service classes (col. 2, lines 29-31, 56-62; col. 7, line 67 to col. 8, line 1; and col. 9, lines 57-62).

30. As to claims 30 and 32, Aharoni discloses at least one processing agent operatively configured within the backbone network and configured to selectively filter the aggregated information associated with different communication sessions based on identified bandwidth

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constraints and service classes, and implement packet-level fast transcoding and related signaling (col. 10, Lines 33-48; and col. 11, lines 53-56).

*Claim Rejections - 35 USC 103*

31. Claims 1, 6, 12, 19, and 25 are further rejected under 35 U.S.C. 103(a) as being as being unpatentable over Gai et al. (US 6,651,101), herein after "Gai" in view of Aharoni et al. (US 6,014,694), hereafter "Aharoni"

32. Gai was cited in the previous office action.

33. As to claim 1, Gai discloses the invention substantially as claimed including a method comprising;

classifying information based on importance (col. 18, lines 37-60) and responsive to a particular object that is selected by at least one user interaction (col. 18, lines 2-21) via a remote device that is operatively coupled across a network (212, fig. 2; col. 8, lines 15-17; col. 7, lines 53-56); and assembling the classified information into packets associated with different classes of network packets (col. 16, lines 34-39).

34. Gai does not teach video objects. Aharoni teaches compressing video objects (col. 2, lines 15-16; 14, 16, Fig. 1; and 212, Fig. 15); generating at least one corresponding elementary stream comprising the compressed video objects (col. 2, lines 29-35; Fig. 4; and 214, Fig. 15).

35. Note that Aharoni's disclosure talks about raw video and data objects in several places. However, Aharoni discloses that any suitable method of video compression can be utilized to process the raw video data such as described in connection with MPEG-I, MPEGQ, or MPEG-4 standards (col. 6, lines 56-59; and col. 18, lines 39-42). It is well known in the art that MPEG-4 standards are object-based (e.g. "MPEG4 Video Verification Model" reference is cited by the applicant in the parent application 09/464,671). This basically means that Aharoni's raw data are video objects and Aharoni's data objects are video objects.

36. It would have been obvious to one skilled in the art at the time of the invention to combine the teaching of Gai and Aharoni because Aharoni's teaching of video object would allow Gai's system to prioritize objects including video object in order to generate prioritize video stream to users.

37. As to claim 6, Gai discloses the invention as claimed including a method comprising packetizing content information (col. 3, line 65 to col. 4, Line 3); generating resource coordination information based at Least in part on at least one prioritizing parameter associated with an application communicating the content information (col. 2, Line 56- col. 3, Line 32; and col. 4, Line 36-37) and on one or more prioritizing parameters associated with a particular object that is selected by a user interaction (col. 4, Lines 10-18, 37-38; col. 18, lines 2-21, 54-57) via a remote device that is operatively coupled to a network (212, fig. 2; col. 8, lines 15-17; col. 7, lines 53-56); selectively associating each packet of content information with a service class

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selected from among at Least two different service classes based on the resource coordination information ( col. 5, Lines 25-30); selectively outputting at Least one packet of content information based on a priority associated with the service class associated with the packet of content information and providing the at Least one packet of content information to a network (col. 4, Lines 56-65).

38. Although Gai teaches one or more prioritizing parameters associated with a particular object that is selected by a user interaction, however, Gai does not explicitly teach including video object. Aharoni teaches parameter associated with a particular video object (col. 19, lines 14-21).

39. It would have been obvious to one skilled in the art at the time of the invention to combine the teaching of Gai and Aharoni because Aharoni's teaching of video object would allow Gai's system to prioritize objects including video object in order to generate prioritize video stream to users.

40. As to claim 12, the claim is rejected for the same reasons as claim 6 of paragraph xxx above. In addition, one or more computer-readable media comprising computer instructions for performing acts comprising: generating prioritization information based at least in part on at least one parameter associated with an application media information and on one or more prioritizing parameters associated with a particular object that is selected from the media information by a user interaction (col. 4, Lines 10-18, 37-38; col. 18, lines 2-21, 54-57) via a remote device that is

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operatively coupled to a network (212, fig. 2; col. 8, lines 15-17; col. 7, lines 53-56); associating packets of the media information with a service class selected from a plurality of different service classes based on the prioritization information (col. 5, Lines 25-30); and selectively outputting from sending computing device onto the network some of the packets of media information based on their respective service classes(col. 4, Lines 56-65).

41. Although Gai teaches one or more prioritizing parameters associated with a particular object that is selected by a user interaction, however, Gai does not explicitly teach including video object. Aharoni teaches parameter associated with a particular video object that is selected from the media information (col. 19, lines 14-21). Aharoni further discloses selectively discarding a portion of the packets of the media information in accordance with an adaptive rate control mechanism at a sending computing device (col. 3, lines 46-60; and col. 12, lines 42-55).

42. It would have been obvious to one skilled in the art at the time of the invention to combine the teaching of Gai and Aharoni because Aharoni's teaching of video object would allow Gai's system to prioritize objects including video object in order to generate prioritize video stream to users.

43. As to claim 19, the claim is rejected for the same reasons as claim 6 above. In addition, Gai discloses an apparatus comprising packetizer logic configured to receive encoded content information and output corresponding packets of content information (col. 3, Line 65 to col. 4, Line 3); collaborator logic operatively coupled to the packetizer logic and configured to receive



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at Least one prioritizing parameter associated with at Least one application, including an application communicating the content information (col. 2, Line 56- col. 3, Line 32; and col. 4, Line 36-37) and one or more prioritizing parameters associated with a particular object that is selected by a user interaction (col. 4, Lines 10-18, 37-38; col. 18, lines 2-21, 54-57) via a remote device that is operatively coupled to a network (212, fig. 2; col. 8, lines 15-17; col. 7, lines 53-56) and output resource coordination information based at Least in part on the at Least one prioritizing parameter associated with the application (col. 10, Lines 8-10); priority mapping logic operatively coupled to the collaborator logic and configured to receive the packetized content information and the resource coordination information, and selectively associate each received packet of content information with a service class selected from among at Least two different service classes based on the resource coordination information, and selectively output at Least one packet of content information based on a priority associated with each service class (col. 5, Lines 25-30); and forwarder logic operatively coupled to the priority mapping logic and configurable to provide the at Least one packet of content information to a network (col. 4, Lines 56-65).

44. Although Gai teaches one or more prioritizing parameters associated with a particular object that is selected by a user interaction, however, Gai does not explicitly teach including video object. Aharoni teaches parameter associated with a particular video object (col. 19, lines 14-21).

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45. It would have been obvious to one skilled in the art at the time of the invention to combine the teaching of Gai and Aharoni because Aharoni's teaching of video object would allow Gai's system to prioritize objects including video object in order to generate prioritize video stream to users.

46. As to claim 25, Gai discloses the invention as claimed including above a system comprising a network environment including a backbone network , and a first access network and a second access network , each being operatively coupled to the backbone network (col. 1, Line 29 to col. 2, Line 35; and Fig. 2); a plurality of host devices including a first host device operatively coupled to the first access network and a second host device operatively coupled to the second access network ( e.g. 222, Fig. 2), the second host device receiving a user interaction comprising selection of a particular object (col. 8, lines 15-17; col. 7, lines 53-56; col. 18, lines 2-21, 54-57); application-aware resource controllers (208, 210, Fig. 2 ) configured to selectively aggregate content information associated with at least one communication session established between two hosts (col. 6, Lines 42-57), and to map the aggregated information to at Least two service classes based at least in part on one or more prioritizing parameters associated with the user interaction( 216, Fig. 2; and col. 8, lines 15-17; col. 7, lines 53-56).

47. Although Gai teaches selection of a particular object by a user interaction, however, Gai does not explicitly teach object includes video object. Aharoni teaches user selection of a particular video object (col. 19, lines 14-21).

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48. It would have been obvious to one skilled in the art at the time of the invention to combine the teaching of Gai and Aharoni because Aharoni's teaching of video object would allow Gai's system to prioritize objects including video object in order to generate prioritize video stream to users.

49. Applicant's arguments filed 09/26/2006 have been fully considered but they are not persuasive.

50. In the remarks, applicants argued in substance that none of the prior art of record teaches prioritizing parameter associated with a particular video object that is selected by a user interaction via a remote device that is operatively coupled to a network.

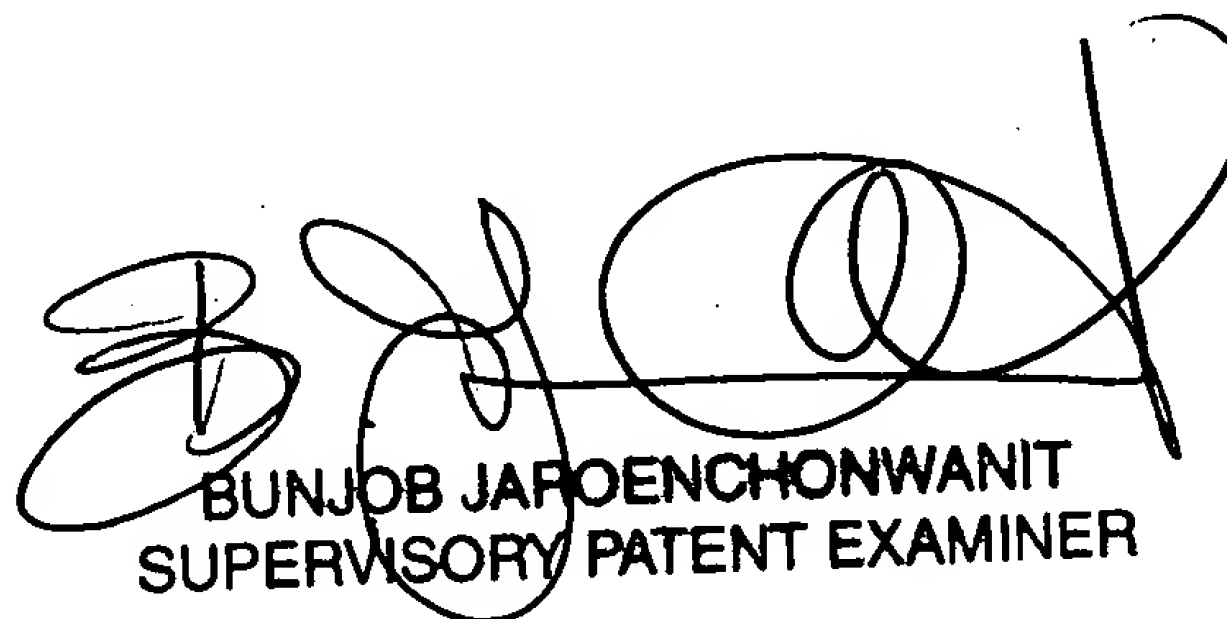
51. Examiner respectfully traverses applicants' remarks.

52. Aharoni discloses prioritization resulting from selection of a particular video object by a user interaction feedback (col. 7, line 60-to col. 8, line 17; and col. 19, lines 15-21) via a client device that is operatively coupled to a network (220, fig. 15). Gai discloses prioritizing parameters associated with a particular object that is selected by a user interaction (col. 4, Lines 10-18, 37-38; col. 18, lines 2-21, 54-56) via a remote device that is operatively coupled to a network (212, fig. 2; col. 8, lines 15-17; col. 7, lines 53-56).

### CONCLUSION

53. A shortened statutory period for reply to this Office action is set to expire THREE MONTHS from the mailing date of this action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip C Lee whose telephone number is (571)272-3967. The examiner can normally be reached on 8 AM TO 5:30 PM Monday to Thursday and every other Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

P.L.



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SUPERVISORY PATENT EXAMINER